

**SACRAMENTO METROPOLITAN
AIR QUALITY MANAGEMENT DISTRICT**

STAFF REPORT

**RULE 413
STATIONARY GAS TURBINES**

**RULE PROPOSAL
April 6, 1995**

Prepared by: Anna Komorniczak
Air Pollution Control Specialist

Approved by: Brigette Tollstrup, Manager
Rule Development Section

G:\rul\wp\0413ahk\rule\staff7.rep

INTRODUCTION

NO_x RACT Under the provisions of the Federal Clean Air Act Amendments (CAAA) of 1990, the Sacramento Metropolitan Air Quality Management District (District) has been designated a "serious" nonattainment area for failing to meet the federal ozone standard. Ozone occurs when volatile organic compounds and nitrogen oxides react in the atmosphere in the presence of heat and sunlight.

Section 182(f) of the Federal Clean Air Act Amendments of 1990 (CAAA) requires the District to submit NO_x Reasonably Available Control Technology (RACT) rules for stationary sources by November 1992. Implementation of RACT is required by May 31, 1995. The District did not submit NO_x RACT rules in 1992 because it was in the process of conducting photochemical grid modeling to determine the extent of the NO_x contribution to ozone formation before adopting NO_x regulations. Section 110(k)(4) of the CAAA provided an alternative which extends the deadline by one year by submitting a "Committal SIP" for the NO_x RACT Rules.

NO_x RACT The committal SIP is a commitment to complete the photochemical modeling and to adopt RACT for identified major stationary sources. The committal SIP was submitted to EPA through ARB on August 31, 1993. The committal SIP was later deemed complete by EPA in November, 1993. This action stopped the sanctions process. In July 1994, as a result of a National Resources Defense Council suit on other Committal SIPs, EPA rejected the Committal SIP. This action restarted the sanctions process. The imposition of sanctions will occur no later than July, 1995, if the District fails to submit complete NO_x RACT rules.

Health Risks In 1993, Sacramento exceeded the federal, health based, standard for ozone 6 days and the state standard 28 days. Ozone is a strong irritant which attacks the respiratory system and damages lung tissue. Prolonged exposure can cause permanent lung damage. Ozone decreases the flow of oxygen in the lungs and increases resistance to air passage in the lung tissue. Ozone damages the individual air sacs in the lungs where the exchange of oxygen and carbon dioxide between the air and blood takes place. Persons suffering from asthma, bronchitis, and other respiratory ailments, as well as cardiovascular disease, are particularly susceptible to the effects of ozone. Other groups which are susceptible include children, the elderly, and persons engaged in heavy exercise.

Other damageOzone causes crop damage estimated to cost at least \$330 million dollars per year in California. Additionally, ozone has been linked to the damage of certain materials, including paint and rubber.

SanctionsThe CAAA directs EPA to impose sanctions on any area that fails to comply with the requirements of the law. The two mandatory sanctions consist of increased emissions offsets for construction of new or modified major stationary sources, and cut-off of federal highway funds. The highway fund sanction prohibits the Secretary of Transportation from approving or awarding transportation projects or grants, except for projects designed to improve a demonstrated safety problem or intended to minimize air pollution.

EPA has the authority to impose sanctions at any time after making a finding that:

- There has been a failure to submit a required rule,
- The required rule submittal is incomplete, or
- The submitted rule is disapproved because it fails to meet a requirement of the Act.

The finding, however, will not generally result in the immediate imposition of the sanctions. Usually, this starts an 18 month sanctions clock during which time the District has an opportunity to correct the deficiency. If the deficiency is not corrected in this time the offset sanction will automatically be imposed at the end of the 18 months. The highway fund sanction will be automatically imposed 6 months later.

The EPA must adopt a rule which satisfies the requirements within two years of making the above finding.

1991 AttainmentThe proposed rule is included as a control measure in the District's Sacramento Plan 1991 Air Quality Attainment Plan, adopted by the District Board of Directors on July 24, 1991.

Authority forThe Board of Directors of the Sacramento Metropolitan Air Quality StationaryManagement District is authorized by Sections 40000, 40001, 40702, Source Rules**40716**, 40961, 41010, and **41013** of the California Health and Safety Code to adopt, amend, and repeal rules that regulate stationary sources of air pollution.

- Section 40000: Local and regional authorities have the primary responsibility for controlling air pollution from stationary sources.
- Section 40001: Air districts shall adopt rules to achieve and maintain state and federal ambient air quality standards.
- Section 40702: An air district shall adopt rules to execute its statutory powers and duties.

Continued on the next page.

- Section 40702: An air district shall adopt rules to execute its statutory powers and duties.
 - Section 40961: Locally, the Sacramento Metropolitan AQMD has the primary responsibility for developing air pollution control strategies.
 - Section 40716: An air district may adopt rules to reduce or mitigate emissions from indirect and areawide sources.
 - Section 41013: The Sacramento Metropolitan AQMD may adopt regulations to limit or mitigate the impact on air quality of indirect and areawide sources.
-

CA Clean Air Act Because the District violated the state ozone standard at least four times in the three year period from 1989 through 1991 and the violations were over 13 parts of ozone per hundred million parts of ambient air, the District is designated serious non-attainment for the state ozone standard.

California Health & Safety Code (CHSC) Section 40910 states "...districts shall endeavor to achieve and maintain state ambient air quality standards for ozone ...and shall strive to achieve the most efficient methods of air pollution control. However, priority shall be placed upon the expeditious progress toward the goal of healthful air."

The California Clean Air Act requires areas designated as serious non-attainment for ozone to adopt Best Available Retrofit Control Technology (BARCT) for all existing permitted sources (CHSC Section 40919(c)). BARCT means an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source. (H&SC section 40406)

According to the document, **DETERMINATION OF REASONABLY AVAILABLE CONTROL TECHNOLOGY AND BEST AVAILABLE RETROFIT CONTROL TECHNOLOGY**, (RACT/BARCT Guidance) a California Clean Air Act Guidance prepared by the California Air Resources Board (CARB or ARB), BARCT should be the more stringent of:

- The most effective limits in effect in any regulation anywhere in the world, or
 - The most effective limit determined to be achievable in the near future, or
 - Any combination of control technologies that will result in equivalent emission reductions.
-

RULE OVERVIEW

PurposeThe purpose of Rule 413 - Stationary Gas Turbines is to control and limit the emission of nitrogen oxides from stationary gas turbines. There are 58 stationary gas turbines operating in Sacramento County. Of these: 12 will be subject to this rule, 4 may require modification to meet the rule's NOx limits, and the remaining 8 gas turbines, with emergency standby status or low usage, will be affected by recordkeeping.

Rule 413 will take effect on the date of adoption. Full implementation is scheduled for May 31, 1997.

How does a Stationary gas turbines are internal combustion engines that operate
Gas Turbinewith a rotary motion. Gas turbine engines consist of three primary work?sections: the compressor, the combustor, and the turbine. The compressor section draws in ambient air and compresses it up to 30 times ambient pressure. The combustor section mixes the compressed air with fuel and ignites the mix. The resulting hot combustion gas is directed into the turbine section where it is expanded and converted to usable power. A common example of a gas turbine is a jet engine. In stationary applications, hot combustion gases are directed through one or more turbines to generate shaft horsepower for industrial use. ~~The heat from the exhaust gases is often recovered through add-on heat exchangers in cogeneration applications.~~

Cause ofThe combustion of fossil fuels generates NOx emissions from the oxidation of NOx emissionsfuel-bound nitrogen (fuel NOx) and from the oxidation of nitrogen in the air (thermal NOx). Fuel NOx generation is a function of the nitrogen content of the fuel. Thermal NOx generation is a function of flame temperature, turbulence, and residence time.

Uncontrolled NOx emissions from gas turbines ranges from 99 to 430 ppmv for gas-fired turbines, and from 150 to 680 ppmv for liquid (oil) fired turbines.

Control TechniquesA number of separate strategies have been developed to reduce NOx emissions. NOx emissions can be controlled either during the combustion process or after combustion is complete.

Combustion control technologies rely on air or fuel staging techniques to take advantage of the kinetics of NOx formation. Post-combustion control technologies rely on introducing reactants in specified temperature regimes that destroy NOx

either with or without the use of catalyst. Below is a summary of the commercially available NOx control technologies, as well as their relative efficiencies, advantages and disadvantages, applicability, and impacts.

Continued on the next page.

■Combustion control:

—**Water/Steam Injection:** Injection of water or steam reduces the combustion temperature inside the turbine's combustion chamber. This temperature reduction decreases the amount of NO_x produced. Potential control efficiency is 60%. Controlled emission level ranges from 42 to 65 ppmv @ 15% O₂.

—**Dry Low-NO_x Combustors:** Special combustion chambers are being designed for turbines which improve the combustion process, and decrease NO_x emissions. Potential control efficiency is 60%. At this time low-NO_x combustors they are only available for selected turbine models. Controlled emission level ranges from 9 to 15 ppmv @ 15% O₂.

■Post-combustion control:

—**Selective Catalytic Reduction (SCR):** Catalytic reduction chambers use catalyst materials to chemically reduce NO_x concentrations found in a turbine's exhaust gases. The SCR system reduces NO_x through the injection of ammonia (NH₃) into the exhaust gas. The NH₃ reacts with the NO_x in the presence of a catalyst to form water and nitrogen. Potential control efficiency is about 80%.
~~Controlled emission level is at or below 9 ppmv @ 15% O₂.~~

SUMMARY OF REQUIREMENTS

Affected Facilities Rule 413 would apply to all stationary gas turbines with a power rating of 0.3 megawatts (MW) or greater. Rule 413 affects 12 of the 58 stationary gas turbines operating in the Sacramento Metropolitan Air Quality Management District. Eight of the twelve units will be affected by recordkeeping provision based on low usage or emergency status. The remaining 46 gas turbines would not be subject to the rule due to their small size.

Exemptions Rule 413 exempts gas turbines that:

■Function solely as an emergency standby unit. To qualify, the turbine unit must operate less than 100 hours for maintenance annually, and must be providing emergency:

- Electrical power during interruptions of electrical power; or
- Water pumping for flood control; or
- Water pumping for fire control.

■Are removed from service prior to May 31, 1997.

■Are used for laboratory research and testing to advance gas turbine technology.

Emission Limits Rule 413 establishes the following NO_x emission standards for affected gas turbine units.

Standards	Unit Rating (MW)	NO _x Emission Limit (ppmv)	
		Gaseous Fuel	Liquid Fuel
RACT	≥0.3	42.0	65.0
BARCT	≥0.3 and <2.9	42.0	65.0
	≥2.9 and <877 hrs/yr	42.0	65.0
	≥2.9 to <10 and >877 hrs/yr	25.0	65.0
	≥10.0 (no/SCR) and >877 hrs/yr	15.0	42.0
	≥10.0 (w/ SCR) and >877 hrs/yr	9.0	25.0

RACT This is a federal requirement. Reasonably Available Control Technology (RACT) as defined in the Federal Register 57 FR 55620 means "the lowest emission limitation that a unit is capable of meeting by the application of control technology that is reasonable available considering technological and economic feasibility." Under section 182(f) of the CAAA the District was required to submit NO_x Reasonably Available Control Technology (RACT) rules for all major stationary sources.

BARCT This is a state requirement. Best Available Retrofit Control Technology as defined in Section 40406 of the California Health and Safety Code as "an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of sources." Pursuant to Health and Safety Code Section 39610(b), the California Air Resources Board (ARB) requires the District to impose NO_x controls which will be Best Available Retrofit Control Technology (BARCT).

RACT/BARCT The ARB has developed the "Determination of RACT/BARCT of Oxides of Nitrogen From Stationary Gas Turbines," 1992, which was the model for the proposed Rule 413.

EMISSION IMPACTS

Emissions Inventory Proposed Rule 413 affects 12 of the 58 gas turbines operating in the SMAQMD. Four gas turbines would be required to retrofit or modify to meet the NO_x limits, and 8 gas turbines would be exempt due to emergency standby status or low usage. According to 1992 emissions inventory, the gas turbines contribute about 8% of total NO_x emissions from stationary sources presently emitting 224 tons per year.

The remaining 46 gas turbines are flight line turbines used to start aircraft, all with ratings less than 3 mmBtu/hr input (equivalent to 0.3 MW output).

Authority to Construct applications have been submitted to the District for another 11 turbines. Eight of these applications are for cogeneration projects or peaking units (including a gas turbine which may replace the existing unit at Procter and Gamble), and three flight line turbines which will replace old units. New gas turbines are subject to New Source Review, including control and mitigation requirements of Rule 202—NEW SOURCE REVIEW.

NO_x Reductions The existing cogeneration gas turbines are expected to meet Rule 413's standards by using available NO_x retrofit control technologies (described above in the Control Techniques Section).

Based on the District's 1992 emissions inventory, staff estimates that Rule 413 will reduce the District's NOx emissions by 186 tons per year (an 83% decrease in NOx emissions from these sources).

TABLE 1: STATIONARY GAS TURBINE ACTUAL EMISSIONS							
Facility	Model	Output (MW)	Fuel	Operation (Hr/Yr)	NOx Control	Actual Emissions	
						(PPMV)	(TPY)
Procter & Gamble	GE LM2500	21.8	NG	8000	WI	62	188.3
State of Calif. GS	Saturn 1000	1.64	NG	~2000	none	~150	14.4
State of Calif. GS	Saturn 1000	1.64	NG	~2000	none	~150	13.4
State of Calif. GS	Saturn 1000	1.64	NG	~2000	none	~150	8.2

COST IMPACTS

Background The cost impact of the proposed rule has been analyzed pursuant to California Health and Safety Code Section 40703. The analysis also focuses on factors pursuant to H & S Code Section 40922, such as technological feasibility, public acceptability, and enforceability.

The total emission reduction potential is addressed under the Emissions Impact Section of this staff report.

The cost impact analysis is consistent with the approach used by the EPA Office of Air Quality and Planning Standards (OAQPS) Control Cost Manual and the Alternative Control Technology (ACT) Document published by EPA. District policy requires staff to calculate cost effectiveness for each new rule proposal. These figures make it possible to compare rule proposals using a common basis. The figure for comparing NO_x control rules is the estimated cost in dollars per pound of NO_x emissions reduced.

District cost effectiveness estimates are drawn from information found in ARB's *RACT/BARCT Determination for Stationary Gas Turbines*, 1992, and EPA's *ACT Document - NO_x Emissions from Stationary Gas Turbines*, 1993. The cost effectiveness of NO_x control technologies varies depending on the technique used. Estimates are listed below.

The cost impact analysis estimates the cost of controlling emissions from each gas turbine subject to proposed rule. Capital costs and operation and maintenance (O&M) costs have been estimated using information from the EPA's ACT document. 1990 costs have been adjusted to 1994 costs by applying an inflation factor of 4%. Annualized capital cost is calculated using a capital recovery factor of 0.1315. This is equal to a 10 percent interest rate and a 15 year equipment life.

Capital Costs Total capital costs are found by summing the direct capital costs and the indirect capital costs. ~~Direct capital costs include the purchased equipment costs and the direct installation costs.~~ Indirect capital costs include; indirect installation costs such as engineering, construction, field expenses, performance tests, and contingencies such as equipment redesign and start-up delays. Summary of capital costs are shown in Table 2.

Annual Costs Annual costs are found by summing the direct annual operation costs and the indirect annual operation costs. Direct annual operation costs include materials and labor for operational maintenance, utilities and material replacement and disposal. Indirect annual operating costs include facility and management overhead and capital recovery costs. Summary of annual costs are shown in Table 2.

Cost Effectiveness Estimates of the cost to control emissions from each gas turbine are included in Table 2. Assumptions have been made about which control technology to use. The facility may select different controls which may have different costs. In this estimation, capital costs and operation and maintenance (O&M) costs have been estimated using information from Peerless Manufacturing Company and the ACT document. Total annual cost was divided by the annual emission reduction to determine the cost-effectiveness.

Table 2 Cost effectiveness of Gas Turbine Emission Reductions.

Facility	Model	Rule Limit (ppmv)	Add'l NOx Control	Control Factor	NOx Reduced (ton/yr)	Total Capital Cost (10 ⁶ \$)	Total Annual Cost (10 ³ \$/yr)	Cost-effect (\$/lb)
Procter & Gamble	GE LM2500	9	SCR	0.85	160.1	1.65	591	1.80
State of Calif. GS	Saturn 1000	42	WI	0.72	10.4	0.28	50	2.40
State of Calif. GS	Saturn 1000	42	WI	0.72	9.6	0.28	50	2.60
State of Calif. GS	Saturn 1000	42	WI	0.72	5.9	0.28	50	4.30

SOCIOECONOMIC IMPACTS

Background According to the California Health and Safety Code Section 40728.5 (a):

Whenever a district intends to propose the adoption, amendment, or repeal of a rule or regulation that will significantly affect air quality or emissions limitations, that agency shall, to the extent data are available, perform an assessment of the socioeconomic

impacts of the adoption, amendment, or repeal of the rule or regulation.

Proposed Rule 413 will affect air quality, so the requirements must be evaluated. Six separate socioeconomic elements, as defined in Section 40728.5, are discussed below.

Affected Industry ~~Rule 413 will apply to stationary gas turbines with a power rating of 0.3 megawatts or greater. The rule will impose a NOx emission limitation on the four permitted turbines currently operating at the following facilities: Procter and Gamble and State of California Department of General Services. The turbines are used to generate process heat and electricity in both cogeneration applications. These businesses involve industrial processing plants, and power and heating supply for buildings.~~

The main impact of this rule will be to increase the operating costs of turbines operations. These costs would arise from retrofit, downtime for retrofit, increased fuel costs, increased water consumption, ammonia usage and monitoring equipment. However, because the affected facilities are expected to comply with the rule for other reasons there are no impacts.

Regional Economy ~~Affected facilities may have to generate revenue to make the modifications necessary for rule compliance. This could lead to an increase in the price of goods and services provided by the affected facilities. However, because the affected facilities are expected to comply with the rule for other reasons there are no impacts.~~

Employment The impact of this rule may be offset by the creation of employment in air pollution control industries and service industries, such as equipment manufacturers, engineering firms, and construction contractors. However, because the affected facilities are expected to comply with the rule for other reasons there are no impacts.

Probable Costs The Cost Effectiveness section of this staff report addresses probable costs.

Alternatives There are two primary alternative control options which the District might pursue in place of the proposed Rule 413.

- The District could choose not to adopt the proposed rule. The proposed rule is mandated under Section 182(f) of the CAAA. Under this section the District was required to submit NOx RACT rules for all major stationary sources by November 1992. If the District exercises this option, the EPA will implement a similar rule for this particular source category and impose the sanctions discussed above.
- The District could institute a similar measure with differing emission limits. The District has the option to adopt just the RACT standards, not proposed BARCT standards. This alternative would fulfill the requirement of the CAAA and remove any threat of sanctions by the EPA. However, this alternative would not fulfill the BARCT requirements of the California Clean Air Act.

EPA has been directed by a July 1, 1992, decision of the 9th Circuit Court of Appeals to promulgate the FIP, by February 14, 1995, and to implement it. The FIP-proposed NOx emission limit is 9 ppmv at 15% O₂, regardless of applied NOx control technology.

Emission Reductions Estimated emission reductions are addressed in the Emission Impacts Section of this staff report.

Necessity Rule 413 is necessary for the following reasons:

- The District is designated as "serious" nonattainment area for ozone.
- Serious nonattainment areas for ozone must meet federal standards by 1999, according to Federal Clean Air Act 181(a)(1).
- Section 182(f) of the Federal Clean Air Act Amendments (CAAA) requires the District to submit Reasonably Available Control Technology (RACT) rules for all major stationary NOx sources. Stationary gas turbines are one of the District's major NOx sources.
- The proposed rule is included as a control measure in the District's Sacramento 1991 Air Quality Attainment Plan, adopted on July 24, 1991.

The District needs Rule 413 in order to attain state and national ambient air quality standards (NAAQS) for ozone. If the District does not adopt this rule, it will be subject

to EPA sanctions and subsequent implementation of a similar rule by the EPA.

ENVIRONMENTAL REVIEW

Initial studyThe District's environmental coordinator prepared an initial study for Rule 413 pursuant to the California Environmental Quality Act. The initial study addressed secondary air quality impacts resulting from add-on control equipment, human health impacts and energy use. As a result of the proposed rule, the District will reduce NOx emissions from existing gas turbines. The initial study was used to determine to prepare a Negative Declaration of environmental impact for the proposed rule.

TABLE OF FINDINGS

Six Required According to Section 40727 of the California Health & Safety Code, an air district board may not adopt, amend, or repeal a rule unless the board makes six specified findings. The findings must be based on relevant information presented at the board's hearing for the rule. Table VI below sets forth these findings, their definitions, and the findings' bases.

FINDING	DEFINITION	BASIS FOR FINDING
Authority	The District is permitted or required to adopt, amend, or repeal the rule by a provision of law or a state or federal regulation.	<ul style="list-style-type: none"> California Health and Safety Code; Section 40702, and Section 41010. Federal Clean Air Act Section 182(f). Federal Clean Air Act Section 182(c).
Necessity	The District has demonstrated that a need exists for the rule, or for its amendment or repeal.	<ul style="list-style-type: none"> The District is designated as a serious nonattainment area for ozone. Serious nonattainment areas for ozone must meet federal standards by 1999. Federal Clean Air Act Section 181(a)(1). Serious nonattainment areas for ozone are required to adopt NOx RACT. Federal Clean Air Act Section 182(f).
Clarity	The rule is written or displayed so that its meaning can be easily understood by the persons directly affected by it.	<ul style="list-style-type: none"> There is no indication at this time that the persons affected by the rule will not understand its meaning.
Consistency	The rule is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations.	<ul style="list-style-type: none"> The District has found that the proposed rule is consistent with existing state and federal guidelines.
Non-duplication	The rule does not impose the same requirements as an existing state or federal regulation, unless the District finds that the requirements are necessary or proper to execute the powers and duties granted to, and imposed upon the District.	<ul style="list-style-type: none"> There is no state or federal rule or regulation that applies to the stationary gas turbines within the District.
Reference	Any statute, court decision, or other provision of law that the District implements, interprets, or makes specific by adopting, amending, or repealing the	<ul style="list-style-type: none"> Federal Clean Air Act Amendments Section 182(f) and Section 182(c).

	rule.	
--	-------	--

SUMMARY OF COMMENTS AND STAFF RESPONSES

Participants

Brigette TollstrupSMAQMD, Manager Rule Development Section
Aleta KennardSMAQMD, Supervisor of Permitting Section
Brian KrebsSMAQMD, Engineer Permitting Section
LaMar MitchelSMAQMD, Engineer Rule Development Section
James HockenberryMcClellan AFB
George FaulknerDavis Combustion
Louis BrizzolaraPeerless Mfg.
Corky HullSutter Community Hospital
John CorrozMcClellan AFB
Gary MasonMcClellan AFB
Khanh QuangMcClellan AFB
John Van OrnunSutter Community Hospital
Barbara BosIntel Corporation
Raj AywalSJVUAPCD
Max Jones Jr.Tenco Inc.
Robert EskewDepartment of Justice
Mark Woodward
Doug KirkNalco Fuel Tech
Debra WaradySMUD
Roger ChristyChevron USA
Stuart HusbandSMUD
Bill KreutzerKTXL-TV-Channel 40
Jeff AdkinsSierra Research
Becky WoodTeichert Aggregates
Carolyn CraigAerojet
Al BrunCaltrans
Harald F. WebbCaltrans
John MincyNalco Fuel Tech
Dan JohnsonFugro West
Richard HoldenP G & E
Mea WangUS EPA
Wendy ColomboUS EPA

Roxanne JohnsonUS EPA
Gregory J. NelsonWaukesha Engine Division

Comments

Jim Sane, ARB No comments

Duane James, EPAApprovability issues: definition of Emergency Standby Units, Removal from Service Units, recordkeeping requirements for Lab Units, and deletion of referenced ARB Method 20.

ResponseThe District will revise the rule; the definition for emergency standby unit will include sentence that the electricity generated by such units cannot be sold, append Section 401.4 by the sentence: "Operation of any unit beyond May 31, 1997, shall be done in compliance with the applicable NOx limits in Section 302."

Don Price, VCAPCDRecommended the addition of a specific startup/shutdown exemption in Section 100 rather than the implied exemption in Section 214.

ResponseThe District will be adding a startup/shutdown exemption.

Stuart HusbandRecommended to add an exemption from the BARCT emission standards for gas turbines in peaking service with low annual usage.

ResponseThe District will revise the emission limit for low usage units. If a unit can meet the RACT limits by May 31, 1995 without retrofitting, then it must demonstrate compliance with limit by may 31, 1995.

Stuart HusbandSMUD requested that source testing not be required to demonstrate compliance with the RACT standard for oil firing because of the high cost of source testing and low diesel consumption.

ResponseStaff supports SMUD's request and has submitted the info to EPA for their consideration. Indefinite rule language maintained to allow negotiations to consider costs and benefits of emissions testing on standby fuels.

Jeff Adkins, Sierra Recommended that the District revise its proposed Rule to require 42 ppm_{dv} NO_x at 15% oxygen for turbines rated between 0.3 MW and 2.9 MW firing gaseous fuels, to make the rule consistent with RACT/BARCT Guidance and limit NO_x emissions to a level that is cost-effective and available.

ResponseThe District will be applying the RACT and BARCT limits to small units.
